

Serial No. 09/856,209

IN THE CLAIMS:

Claims 1 - 8 (canceled)

9. (Original) A method of producing a silicon ingot, characterized in that the silicon ingot is pulled by the CZ method under conditions satisfying the following (1) and (2):

$$(1) \ 1.15 \leq (G1_{\text{edge}}/G1_{\text{center}}) \leq 1.25$$

$$(2) \ 0.5 < (\text{OSF ring inner diameter/crystal diameter}) < 1.06 \times (G1_{\text{center}} \times G2_{\text{center}})^{-0.2}$$

Claims 10 - 15 (canceled)

16. (New) A method of producing while reducing crystal defects a silicon ingot, comprising the step of pulling the silicon ingot by the CZ method so that:

$$(1) \ 1.15 \leq (G1_{\text{edge}}/G1_{\text{center}}) \leq 1.25$$

$$(2) \ 0.5 < (\text{OSF ring inner diameter/crystal diameter}) < 1.06 \times (G1_{\text{center}} \times G2_{\text{center}})^{-0.2}$$

where

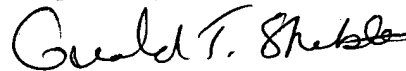
$G1_{\text{edge}}$ is that temperature gradient ($^{\circ}\text{C}/\text{mm}$) in the axis at the crystal edge in the temperature region from the solid-liquid interface temperature to approximately 1350°C ;

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G_1 center is the axial direction temperature gradient ($^{\circ}\text{C}/\text{mm}$) at the crystal center from the solid liquid interface temperature to approximately 1350°C ; and

G_2 Center is the axial direction temperature gradient ($^{\circ}\text{C}/\text{mm}$) at the center of the crystal new 1120°C .

Respectfully submitted,



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